

Vacuum Regulator Push-lock type

Push-lock type vacuum pressure control valve

⚠ Safety instructions for this product

Safety instructions, Common safety instructions for each product category and Detailed safety instructions for each product are in the end of this catalog and our website.

Model Designation (Example)



(1) Vacuum Regulator Push-lock type

(2) Tube dia.

Code	6	8
Tube O.D. (mm)	ø6	ø8

*Male thread size for elbow type is R1/4 only regardless of tube size.

(3) Type (Flow direction)

Code	A	B	U
	Elbow A type (Fitting → thread)	Elbow B type (Thread → fitting)	Union type (Fitting → fitting)
Flow direction			

(4) Pressure indication

Code	Indication		
No code	No pressure indication (with plug)		
M	No pressure indication (with M5x0.8 female thread)		
G	ø30mm negative pressure gauge		
D	Digital pressure gauge (□ 30mm negative pressure gauge)		
V4	Digital pressure sensor with LCD	2 switch outputs + 1 analog output	NPN output
V4P			PNP output
V5	Dual-display (Connector type 2m cable)	2 switch outputs + copy function	NPN output
V5P			PNP output

ø30mm negative pressure gauge



Digital pressure gauge



Digital pressure sensor with LCD Dual-display



* Gauge and sensor types are excluded for -S3 (No copper-based metallic materials used in flow paths, Rubber material: HNBR) specifications.

(5) Bracket (Code entry for Elbow type only)

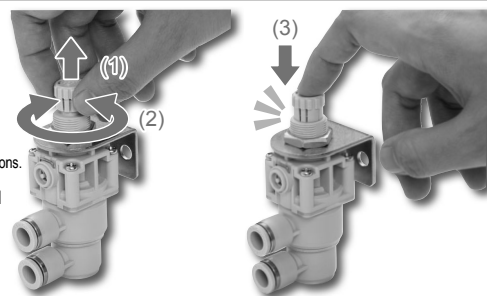
Code	No code	B
Bracket	Without bracket	With bracket

* Union type is equipped with bracket as standard.

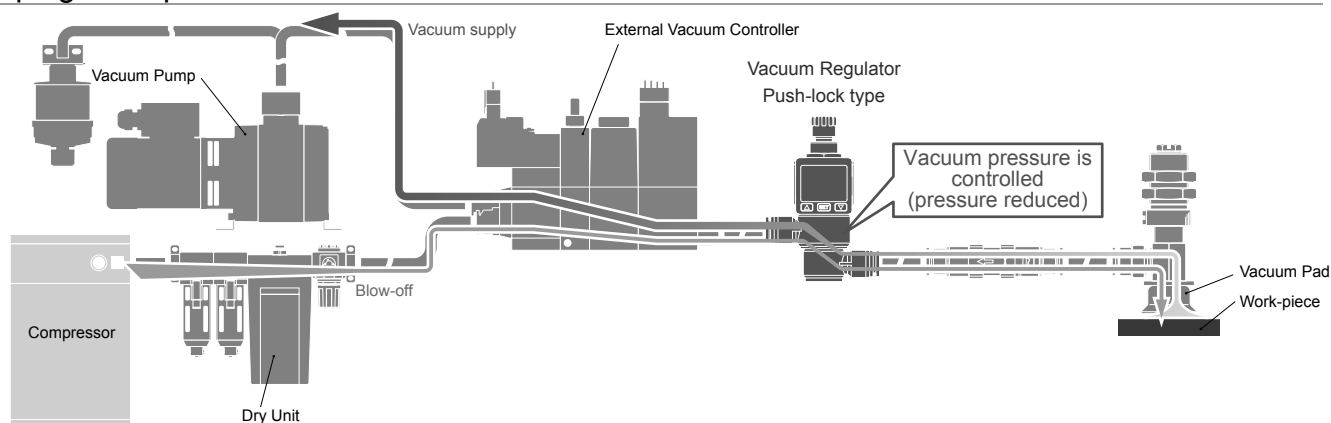
Characteristics

- Push-lock knob for easy pressure adjustment.
- Achieved max. 50% weight saving compared to the previous model.
Aluminum is used for the metal part.
- Standard product equivalent to -S3 specifications. * Gauges and sensors are excluded for -S3 specifications.
No copper-based metallic materials used in flow paths. The rubber material is HNBR, which has good ozone resistance.
- Easy and flexible piping as each port rotates independently.
- Suitable for pressure control of vacuum source, and vacuum pressure control of end effectors.

Elbow A type can be directly mounted on a vacuum port of vacuum source. Elbow B type can be directly mounted on pad holders with pad dia. 150 mm and 200 mm.



Piping examples



Regulator specifications

Pressure indication code	M, No code	V4 (P), V5 (P)	D	G
Fluid medium	Air			
Operating pressure range	-100 to 100 kPa		-100 to 0 kPa	
Pressure setting range	-100 to -1.3 kPa(*)			
Max. suction flow rate	30 l/min[ANR]			
Operating temp. range	0 to 50 °C (No freezing)			0 to 40 °C (No freezing)

* Please note that it changes depending on the pressure of the vacuum source.

ø30 mm negative pressure gauge specifications

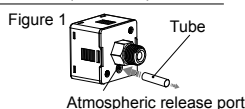
Fluid medium	Air
Indicated pressure range	-100 to 0 kPa
Pressure indication accuracy	±5% F.S. (at 25°C)

Digital pressure gauge specifications

Rated pressure range	-101 to 0 kPa
Indicated pressure range	-101 to 10 kPa (*1)
Proof pressure	300 kPa
Fluid medium	Air, non-corrosive gas, incombustible gas
Battery life	Approx. 3 years (when display turns on 5 times/day)
Low-power indicator	Incorporated
Battery replaceability	Possible
Turn-on interval	Display turns off after 60sec.
Sampling rate	2Hz (2 times/sec.)
Repeatability	≤ ±1% F.S. ±1 digit
LCD display	7 segment, 3.5 digit
Indication accuracy	±2% F.S. ±1 digit max. (ambient temperature: 25 ±3°C)
Protective structure	IEC standard IP65 equivalent (*2)
Ambient temp. range	Operation : 0 to 50°C, Storage: -10 to 60°C (No dew condensation or freezing)
Ambient humidity range	Operation/Storage: 35 to 85%RH (No dew condensation)
Vibration resistance	Total amplitude 1.5mm or 100m/s ² , 10Hz-55Hz-10Hz scan for 1 min., two hours each direction of X, Y and Z.
Shock resistance	100m/s ² , 3 times each direction of X, Y and Z
Temperature characteristics	±2% F.S. of detected pressure (at 25°C)

*1. Indicator accuracy is not guaranteed for the pressure range 0 to 10kPa.

*2. A tube must be inserted into the air release port (Fig.1) to secure IP65.



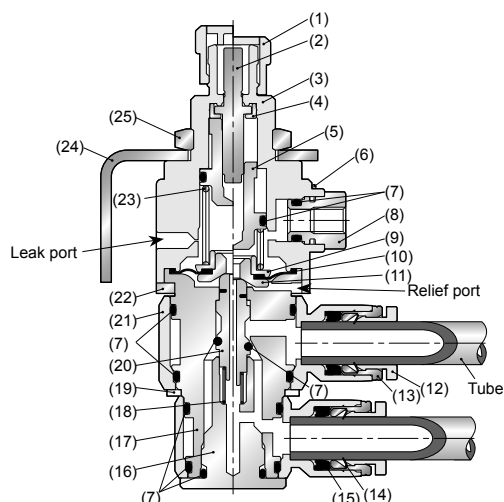
Digital pressure sensor with LCD Dual-display specifications

		V4	V5	V4P	V5P
Model code		VUS-32R-NV (Compound pressure)	VUS-32R-N2 (Compound pressure)	VUS-32R-PV (Compound pressure)	VUS-32R-P2 (Compound pressure)
Rated pressure range		-100.0 to 100.0 kPa			
Proof pressure		300 kPa			
Fluid medium		Air, non-corrosive gas, incombustible gas			
Power requirements		12 to 24 VDC Ripple $\pm 10\%$ max.			
Current consumption		40 mA max. (at no load)			
Switch output	Switch output	NPN open collector		PNP open collector	
	Max. load current	125mA			
	Max. supply voltage	30 VDC		24 VDC	
	Int. voltage drop	1.5V max.			
Repeatability		$\pm 0.2\%$ F.S. ± 1 digit max.			
Hysteresis	One point set mode	Adjustable (*)			
	Hysteresis mode				
	Int. voltage drop				
Response time		2.5 ms or less (Chattering-proof function : 25ms, 100ms, 250ms, 500ms, 1000ms, and 1500ms selections)			
Output short circuit protection		Incorporated			
LCD display		3 colors (Red/Green/Orange) (Sampling rate: 5 times/sec.)			
Indication accuracy		$\pm 2\%$ F.S. ± 1 digit max. (ambient temperature: at $25 \pm 3^{\circ}\text{C}$)			
Operation indicator		Orange (1 & 2 Indicator)			
Analog output (Voltage output)		Output Voltage: 1 to 5V $\pm 2.5\%$ F.S. max. (within rated pressure range) Linearity: $\pm 1\%$ F.S.max. , Output impedance: about 1 k Ω			
Weatherability	Protective structure	IEC standard IP40 equiv.			
	Ambient temp. range	Operation : 0 to 50°C, Storage : -10 to 60°C (No dew condensation or freezing)			
	Ambient humidity range	Operation/Storage : 35 to 85%RH (No dew condensation)			
	Withstand voltage	100V AC 1 min. (between case and lead wire)			
	Insulation resistance	50M Ω max. (at 500V DC, between case and lead wire)			
	Vibration resistance	Total amplitude 1.5mm or 100m/s ² 10Hz-55Hz-10Hz scan for 1 min., two hours each direction of X, Y and Z			
	shock resistance	100m/s ² , 3 times each direction of X, Y and Zs			
Temperature characteristics		$\pm 2\%$ F.S. max. (at 25°C. Range of 0 to 50°C)			
Lead wire		Oil-resistant cable (0.15 mm ²)			

* Hysteresis value is adjustable within 1 to 8 digits for one point set mode and window comparator mode.

Sectional drawing

Union type



No.	Parts	Material
(1)	Pressure adjusting knob	POM
(2)	Pressure adjusting screw	SWCH (Nickel-plated)
(3)	Bonnet	PBT
(4)	Guide bush	Aluminum (Anodized)
(5)	Pressure adjusting bush	Aluminum (Anodized)
(6)	Pin	Stainless steel
(7)	O-ring	HNBR
(8)	Cartridge	Aluminum (Anodized)
(9)	Center disc A	Aluminum (Anodized)
(10)	Diaphragm	HNBR
(11)	Center disc B	Aluminum (Anodized)
(12)	Release-ring	POM
(13)	Guide ring	Special stainless steel (Austenite or ferritic)
(14)	Lock claws	Special stainless steel (Austenite or ferritic)
(15)	Elastic sleeve	HNBR
(16)	Plug	Aluminum (Anodized)
(17)	Metallic body	Aluminum (Anodized)
(18)	Valve spring	Stainless steel
(19)	Plate	Aluminum (Anodized)
(20)	Valve	Aluminum (Anodized)
(21)	Resin body	PBT
(22)	Body plate	Aluminum (Anodized)
(23)	Pressure adjusting spring	Stainless steel
(24)	Bracket	SPCC (Nickel-plated)
(25)	M16x1 Hexagon nut	SWCH (zinc plated)

Vacuum Regulator Push-lock type

RoHS2 (2011/65/EU+EU2015/863) compliant

No pressure indication (with plug)

Type	Model code RVZøDA[5]		Type	Model code RVZøDB[5]		Type	Model code RVZøDU
Elbow A Type RVZ	RVZ6A[5] RVZ8A[5]		Elbow B Type RVZ	RVZ6B[5] RVZ8B[5]		Union type RVZ	RVZ6U RVZ8U
							

No pressure indication (with M5x0.8 female thread)

Type	Model code RVZøDAM[5]		Type	Model code RVZøDBM[5]		Type	Model code RVZøDUM
Elbow A Type RVZ	RVZ6AM[5] RVZ8AM[5]		Elbow B Type RVZ	RVZ6BM[5] RVZ8BM[5]		Union type RVZ	RVZ6UM RVZ8UM
							

With ø30mm negative pressure gauge

Type	Model code RVZøDAG[5]		Type	Model code RVZøDBG[5]		Type	Model code RVZøDUG
Elbow A Type RVZ	RVZ6AG[5] RVZ8AG[5]		Elbow B Type RVZ	RVZ6BG[5] RVZ8BG[5]		Union type RVZ	RVZ6UG RVZ8UG
							

With Digital pressure gauge

Type	Model code RVZøDAD[5]		Type	Model code RVZøDBD[5]		Type	Model code RVZøDUD
Elbow A Type RVZ	RVZ6AD[5] RVZ8AD[5]		Elbow B Type RVZ	RVZ6BD[5] RVZ8BD[5]		Union type RVZ	RVZ6UD RVZ8UD
							

With Digital pressure sensor with LCD Dual-display

Type	Model code RVZøDA[4][5]		Type	Model code RVZøDB[4][5]		Type	Model code RVZøDU[4]
Elbow A Type RVZ	RVZ6AV4[5] RVZ6AV4P[5] RVZ6AV5[5] RVZ6AV5P[5] RVZ8AV4[5] RVZ8AV4P[5] RVZ8AV5[5] RVZ8AV5P[5]		Elbow B Type RVZ	RVZ6BV4[5] RVZ6BV4P[5] RVZ6BV5[5] RVZ6BV5P[5] RVZ8BV4[5] RVZ8BV4P[5] RVZ8BV5[5] RVZ8BV5P[5]		Union type RVZ	RVZ6UV4 RVZ6UV4P RVZ6UV5 RVZ6UV5P RVZ8UV4 RVZ8UV4P RVZ8UV5 RVZ8UV5P
							

 Packaging specifications
1 pc. /bag

 Option
[5]: B ⇒ with bracket

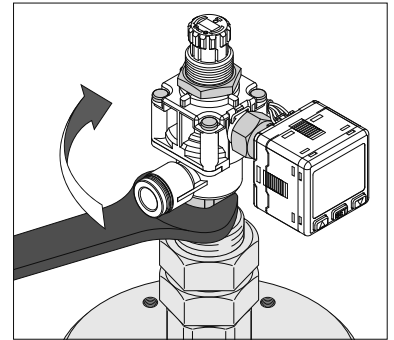
■ How to fix the body

(1) Fixing the Elbow type

To fix the Elbow type, use the square part (□: 14 mm), and tighten at the designated torque with a suitable tool.

When mounting, ensure sufficient space to rotate with a tool. Also, ensure sufficient space for the Elbow type with gauge and sensor to rotate.

Designated torque	12 to 14 N·m
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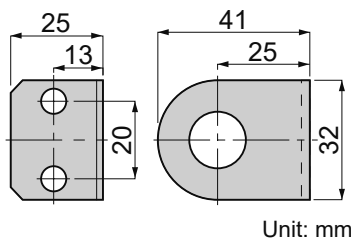


(2) Fixing with Bracket

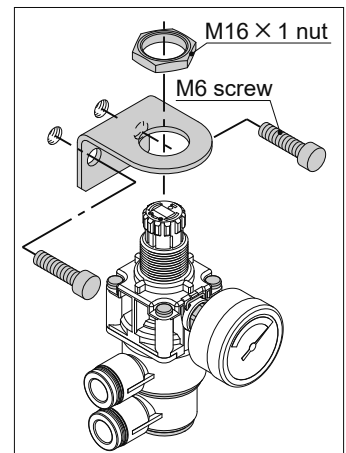
● Fixing Bracket

For the Union type and Elbow type with Bracket, use the fixing holes of Bracket and fasten with M6 screws (prepared by the user).

Bracket mounting dimensions



Unit: mm

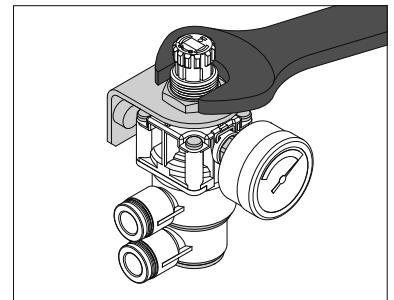


● Fixing the body

For the Union type and Elbow type with Bracket, after fixing Bracket, use the fixing holes in Bracket for the body and tighten with the included M16 x 1 nut at the designated torque, using a suitable tool.

When mounting, ensure sufficient space to rotate with a tool.

Designated torque	3 to 4 N·m
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(3) Fixing with bulkhead fixing holes

To fix the body with bulkhead fixing holes, tighten with the included M16 x 1 nut at the designated torque, using a suitable tool.

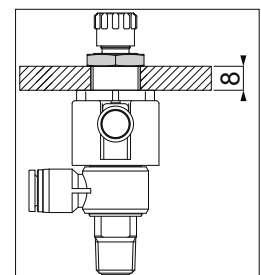
When mounting, ensure sufficient space to rotate with a tool.

Designated torque	3 to 4 N·m
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<Applicable fixing hole dimensions>

I.D.: 16.5 mm to 17 mm

Thickness: 8 mm or less

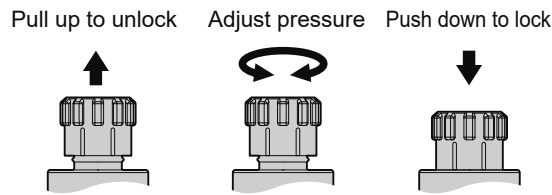


Refer to the “Common Safety Instructions for Products Listed” of “Common Safety Instructions for Vacuum Accessories” on PISCO website (<https://www.pisco.co.jp/en/product/j/cautions/>) for tube installation and removal.

■ How to adjust vacuum level

(1) Vacuum level adjustment

Pull the pressure adjusting knob upward and adjust the vacuum level with the lock released. Do not apply excessive force to the pressure adjusting knob. Otherwise, damage may occur. (The knob is fully closed at factory shipment.)



(2) Increasing vacuum level

Turn the pressure adjusting knob clockwise from the fully open position to increase the vacuum level. Make sure to push down the pressure adjusting knob to lock it at the desired vacuum level so that the pressure setting cannot be changed.

(3) Reducing vacuum level

If the pressure adjusting knob is turned too far (if the vacuum level is too high), turn it counterclockwise to activate the relief mechanism and reduce the vacuum level.

After that, adjust in the same way as in “(2) Increasing vacuum level”.

Make sure to push down the pressure adjusting knob to lock it at the desired vacuum level so that the pressure setting cannot be changed.

